CAPE FLOWERS

BY A LADY.

The authoress of this work was
Mrs Rowsell. wife of a Montreal Civilian.
This book belonged to Major General Francis Archibald Reid C. B
of the Madras Army who was much interested in the Science of
botany.

Catherine Anne Reid.

Folio
QK403
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1849

TO

NATHANIEL WALLICH M. D. F. R. S.

CORRESPONDING MEMBER OF THE FRENCH INSTITUTE

KNIGHT OF BOTH CROSSES

OF THE ROYAL DANISH ORDER OF DANNEBROG

UNDER WHOSE FLATTERING ENCOURAGEMENT

AND SCIENTIFIC GUIDANCE

THIS COLLECTION OF PLANTS

WAS DELINEATED

THE AUTHORESS DEDICATES

HER WORK

WITH EVERY FEELING OF GRATEFUL

AND AFFECTIONATE ESTEEM.

PREFACE.

The original drawings of the plants represented in the following plates, were made from specimens collected at the Cape of Good Hope a few years ago, during a temporary residence in that Colony.

They were made solely for the amusement of leisure hours; but during their progress happened to come from time to time under the observation and critical eye of Dr. Wallich (then also on a visit to the Cape), and under the encouragement derived from his approbation and with his sanction of their fidelity, the drawings were sent to England, and having been submitted to the inspection of Sir William Hooker, were likewise honoured by his favourable opinion, and it was at the joint suggestion and advice of these two distinguished botanists that they were ultimately placed in the hands of the eminent Lithographer Mr. P. Gauci.

The very interesting descriptive remarks upon the plates were contributed by Professor Harvey of Dublin, whose intimate knowledge of South African botany has enabled him to confer a value upon the work, (which does not profess to be of a strictly scientific character) in which it would otherwise have been deficient.

The Authoress is glad to have this opportunity of returning her best thanks for the flattering consideration and valuable assistance bestowed on her own humble efforts; and it will be a source of much gratification to her if she is enabled to impart, in some degree, to others the pleasure she has herself derived from the study of the beautiful flowers of Southern Africa.

September, 1849.

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PLATE I.

SPARAXIS PENDULA.

The family of plants called Irideæ, to which the subjects of this and the two following plates belong, has its maximum at the Cape of Good Hope; and, in the months of the spring and early summer of the southern hemisphere,—namely, from September to November,—the face of the country glitters with the blossoms of these beautiful bulbs. Countless species of *Ixia*, of *Gladiolus*, of *Watsonia*, of *Babiana*, of *Sparaxis* and many other genera of this family spring up, one after another, as the season advances, until the hills and meadows are painted with rainbow colours. The *Ixia*, orange, pink or white; the *Watsonia*, rose-coloured; *Babiana* and *Aristea*, blue; and *Gladiolus* and *Sparaxis* tinted with every shade of colour, diversify the picture; while *Hesperantha*, (the Avond-bloomjie of the Colonists) opening her pale flowers late in the evening perfumes the air with a delicious aroma, like that of the Night-blowing Stock. Those which I have named are perhaps the most striking, but there are many others that deserve notice. One little plant (*Galaxia*), after the first rains, springs up in abundance by the roadsides, or even on the beaten surface of the parade ground at Capetown, and spangles the ground with golden stars, profusely lavished, but almost as fleeting as a meteor. It opens its flowers late in the morning and closes them, to open no more, early in the afternoon: but the succession is continued, and every morning sees a new sheet of flowers displayed. Mixt with the *Galaxia* are several species of *Trichonema*, of the same small size, and equally profuse of blossoms, but their colours are mostly shades of brilliant purple or pink, and their blossoms remain expanded for several days.

But among the whole order, though there are many more gorgeously coloured and bolder growing flowers, perhaps there is none so graceful as the subject of our present plate, *Sparaxis pendula*. And points of interest attach to it, besides those of grace and beauty. The botanist regards it with favour, not merely, like the florist, because it is a beautiful creation; but also because it stands at one of those turning points that define the limits of natural genera. Its technical characters are those of *Sparaxis*; but its outward habit is a blending of that of *Watsonia*, of *Antholyza* and of *Diasia*, without being exactly that of any of these genera. It grows in dense tufts, often of considerable extent, and when out of flower, the tall, slender and rigid leaves, three feet in length, resemble those of the coarser kinds of sedge. From the midst of these leaves, which are perennial, rise up, in the flowering season, the slender wiry flower-stalks, four or five feet in length, divided above into several hair-like branches, which gracefully curve over and are drooped by the weight of the bell-shaped flowers. The flower-stalks are so slender that they move with the slightest breath of air, and the flowers appear to rise and fall as if they were living creatures dancing above the foliage. These flowers are so faithfully represented in the drawing that it is needless to describe them minutely. Each is composed of six lance-shaped petals, united below into a short tube, and curving outwards toward the apex. The flower crowns a small ovary which is concealed between a pair of membranous, torn *bracts*,

which form a sort of spurious calyx or *involucre ;* and the nature of this involucre is the character which chiefly limits the genus *Sparaxis*.

It may appear unphilosophical to limit genera by characters seemingly of so slight importance as the nature of involucral leaves. But, until we have investigated a fact of nature, it is impossible to judge of the value of characters, for purposes of classification ; and, in Irideæ, very important aid is derived from the involucre. The form and substance of this part often affords good generic characters ; and, an attention to its position, will divide the order into two very natural groups. In one of these, to which our *Sparaxis* and all the Ixioid genera belong, the involucre is placed immediately at the base of the ovary : in other words, the flowers are sessile. In the other group, including *Iris*, *Moræa*, *Tigridia*, *Galaxia*, &c., a pedicel or stalk intervenes between the involucre and the ovary. And it is worth being noticed, as confirming the natural character of these two sub-orders that the flowers in the first persist for several days, while in the last they invariably perish in a few hours.

Sparaxis pendula is found wild in the eastern districts of the Colony, in many places ; and is deservedly a favourite in colonial gardens in the districts where it does not occur in a state of nature.

Sparaxis pendula.

PLATE II.

GROUP OF IRIDEÆ.

This charming bouquet represents several species of the genera *Ixia* and *Tritonia*, bulbous plants evidently very closely related to the subjects of the preceding and following plate. The Cape Irideæ, as a whole, form an exceedingly natural assemblage, and each genus, taken by itself, is also truly natural;—that is, its members agree in certain common characters by which they also differ from the members of all the other genera. When we sort out the different kinds from an extensive suite of the order and place those that most nearly resemble each other together, the distinction of generic *types* becomes apparent;—but when, as in the group here drawn, no assortment is attempted, the species have so many links one to another that the notice of diverse genera is lost sight of. There is so close an agreement in the habit and general aspect that one would scarcely suppose any essential differences could here exist,—but the botanist, who is forced to look closely to such matters, soon discovers many important technical characters, by an attention to which he is enabled to classify this very extensive family on natural principles.

The most remarkable plant in the present group is the Green flowered Tritonia (*Tritonia viridis*) distinguished at once by the very peculiar colour of its blossoms. Green flowers are of rare occurrence in any family of plants, even when the green is of the kind called herbaceous—but here we have an example of a much more uncommon vegetable colour, a verdegris-green. This is not however the only Cape Irideous plant with green blossoms; there is also a green *Gladiolus* with helmet-shaped flowers. The dark centre of the flower in *Tritonia viridis* contrasts well with the green star, and adds greatly to its beauty. A centre similarly dark in proportion to the border of the flower, of what colour soever the border may be, is a general feature among the species of *Ixia* and of neighbouring genera.

These plants are so full of grace and beauty that it is no marvel they should be universal favourites with cultivators at the Cape. But they rarely find equal favour with the botanist;—chiefly because they set his systems at nought. Innumerable varieties, intermediate forms and hybrids abound among them, and perhaps there is no family of equal extent in which so many false species have been made, or which is so little understood by systematic writers.

Nor is their cultivation in this Country often, except as regards a few hardy species, attended with success, partly perhaps for want of proper attention being directed to the subject. The Cape Irideæ rank among the *uncertain* plants. Some bear our climate well and multiply in our gardens without care or trouble—while others are so delicate that few cultivators can long preserve them from perishing, and they are only retained in cultivation by constant fresh importations from the Cape. And it is rather curious that some of the hardier kinds are natives of parts of South Africa nearer to the tropic than some of the less hardy kinds. Thus the *Gladiolus psittacinus*, which multiplies so freely in our gardens that it almost becomes a weed, is a native of Port Natal, a district considerably more tropical than Groenekloof, of

which place the bulbs here figured are natives. But it must be borne in mind that Port Natal is on the Eastern side of the Continent, where the rains are much more copious than on the West Coast, where Groenekloof is situated. To this cause may perhaps be attributed the greater hardihood of the Natal bulbs; for in the moist climate of England—if protected from frost—they find an atmosphere more congenial to them than do the plants of the West Coast of South Africa. In cultivating Cape bulbs in this Country it is necessary that they should have perfect rest for the great part of the year, during which time water must be withheld, while light and heat are freely admitted. Without regular care of this kind these Cape Irideæ are of little value and wholly unornamental, for they waste their strength in the continual production of leaves and die of atrophy at last.

The bulbs of many, indeed of most, of the Ixias are edible, and regularly brought to the Capetown markets. They contain a large amount of starch, and when boiled or roasted and served as chesnuts, are not unpalatable. Some are acrid, and on that account cannot be used. The genus *Babiana* is so named because its roots are eaten, as well as those of others of the order, by the Baboons that inhabit the rocky clefts of the Cape Mountains.

A.E.R. DELT

Group of Iridea.

PLATE III.

GROUP OF SPARAXIS.

On comparing the flowers of this group with the subject of our first plate (*Sparaxis pendula,*) there is obviously a relationship observable between them, but the first glance would not lead us to suppose the existence of any very close degree of affinity. And yet the affinity is really of the strongest kind, for most of the plants here represented are actual members of the genus *Sparaxis*.

The colours of the perianth in this genus are remarkably brilliant, and subject to great variation in the same species. *S. tricolor,* several varieties of which are here drawn, is remarkable for its paler centre and the dark spots on the spreading pieces of the flower, and is particularly sportive in the colours which it assumes in cultivation, though tolerably constant when growing in a state of nature. In the colonial gardens, where these plants are great favourites, they seed very freely; and the plants which come up from seed exhibit an infinite variety in the proportions of colour, some having nearly perfectly dark red petals, and others wholly dyed in the clear orange which forms the usual ground colour of the flower. In *S. grandiflora* the corolla is a rich, dark purple; and in *S. anemoniflora* it is cream coloured;— and few floral assemblages are more beautiful than when all are grown together in a flower bed. They place under the eye, on a small scale, that extraordinary blending of colour which the South African landscape presents on a large one, when, after the rains have moistened the ground, the whole plain becomes a flower garden, painted with broad streaks of the brightest hues.

Every traveller tells us of the magic change which a few days of rain, or even a heavy thunderstorm, effects on the South African desert, or *Karroo,* where from the burnt-up soil start up, almost with the rapidity of Jonah's gourd, flowers of the most glowing tint and foliage of the tenderest green. Before the rains fall, the face of the Country reminds us of the curse pronounced on the Israelites, that "the heaven that is over their head should be brass, and the earth that is under them iron." There is not a cloud in the sky; the air is hot and dry as the blast of a furnace; the line of the horizon flickers in haze; and the plain, far as the eye can stretch, is either bare, or clothed with the scanty, grey twigs of the Rhinosterbosch (*Elytropappus*), or with the shrunken forms of succulent plants. If you go "a bulbing" you must take a pickaxe, for no tool of less energy will break the ground, baked hard in that fiery oven. But after the first rains the face of nature quickly and completely alters. The shrunken succulents again look plump and green; the *Mesembryanthema* expand their many coloured starry flowers, or open their singular capsules, which held the seeds of last season closely locked up, as in a box, through the long drought, but now scatter them on the newly watered ground; annual plants spring up by thousands; and the dormant bulbs push forth their stored-up leaves and blossoms, till "the wilderness and the solitary place" begins, in the poetic language of scripture "to rejoice and blossom as the rose," and the barren waste is converted into a garden.

Many are the appliances which the Author of Nature has devised to enable perennial plants and seeds to resist the vicissitudes of such a climate, and to preserve vitality through the long droughts and fierce heats to which they are subjected. I shall here, however, only mention, as a beautiful instance of such care, the manner in which the *corm* or bulb of the Cape Irideæ, and specially, of the genus *Sparaxis*, is protected from heat and drought. The bulb consists of two parts, a *bud*, or the rudiments of leaves and flowers, and a fleshy body or very short stem, which contains a quantity of prepared nutriment ready to be applied to the growth of the bud, when returning moisture shall call forth the active powers of life; but which must be kept to a certain extent moist, in order to preserve life in its tissues. This bulb, consisting thus of bud and stem, is exposed, often for months together, to a heat of 130° or 150°, to which height the temperature of the soil frequently rises during summer; and it is certain that no unprotected bud could live through so severe an ordeal. But a protection, as efficient as it is beautiful, is provided in numerous coats of network, one outside the other, which wrap round the bulb, and interpose between it and the baked soil. This network is formed from the fibrous skeletons of the leaves of the preceding year, and imbibes and retains whatever water penetrates to it. And as the net is generally prolonged upwards from the bulb to the surface of the soil, its fibres readily catch the rain as it falls, and convey it downwards to the bulb. Thus, by a simple arrangement, is life preserved through the dry season, and the earliest advantage taken of the return of moisture.

A E R DELT

Group of Sparaxis.

PLATE IV.

LIPARIA SPHERICA.

No order of plants is more strictly natural than that to which the beautiful shrub represented in our figure belongs, the LEGUMINOSÆ or Pea-family, a large assemblage distinguished by having seeds enclosed in two-valved pods, and very generally characterised by a flower of the form which Linnæus called papilionaceous, or butterfly-shaped. And yet, few orders exhibit a greater variety of habit than we find in this order. The organs of vegetation are infinitely varied in the different genera; and even in the essential characters of the fruit and flower there are many gradations from the perfectly formed, many-seeded pod, to the single-seeded semi-drupe; and from the truly papilionaceous corolla to the rosaceous, or, by a union of the petals, to the tubular. Among the leguminous plants with which we are most familiar, what wide dissimilarity is there not in appearance between the Clover, the Sweet Pea, and the Rose-Acacia or Locust-tree; and yet when we examine the flowers of these plants with a little care, and compare them together, there is manifestly the closest relationship between them. Entering a conservatory filled with Australian Acacias we find shrubs and trees of a somewhat different type, having pods indeed like the Pea, but with yellow pencils or tassels for flowers; and, instead of the fernlike leaves which we associate with the idea of an Acacia, clothed with rigid and often spiny spurious leaves, of strange shapes, sometimes resembling leaves of holly, or of willow, or imitating swords, sickles, hatchets, or other uncouth forms. Again, passing from the conservatory to the stove, we encounter in that tropical temperature, the *Cassia,* the *Bauhinia* and many others in which the characteristic fernlike foliage and the pods are united again, but whose flowers are made up of several equal petals like those of the rose. Thus it is that Leguminous plants assume different aspects as we trace them through different regions. And were we to pursue the enquiry into the tropical forests of South America, we should find examples of this order among the loftiest forest trees, with trunks sixty feet in circumference, and wood of the hardest and closest texture. One of these giants contrasts strangely with a minute annual clover or medick; and shows us what wide extremes the limits of a natural family admit of.

Between seven and eight hundred species of Leguminosæ are found at the Cape of Good Hope. Among them are examples of almost all the remarkable forms of the order; but by far the greater number belong to the same division as our wild Broom (*Genista*)—the humble mountain plant which gave its name to the Royal line of Plantagenet (*Planta-genista*). Not that there is any true *Genista* found wild in South Africa; but they are several genera peculiar to the Cape, with the habit and many of the characters of the Broom. The most extensive of these genera is *Aspalathus,* which contains over a hundred species, some of which are twiggy like the Broom, others spiny like the Furze, and almost all thickly studded with golden blossoms.

Our *Liparia spherica* belongs to a neighbouring genus. It forms a small, but rigid bush, with numerous simple branches, closely covered with hard, dark-green, very smooth and

sharp pointed leaves, and large balls of bright yellow and streaked, pea-shaped flowers, which hang down at the ends of the branches. These flowers are surrounded by coloured floral leaves or bracts, which add greatly to the richness of the cluster.

This handsome bush grows among rocks on the declivities of the hills, and often near the sea-side, starting up in the midst of barrenness and crowning some rugged crag with its golden balls. It is found both in the Western and Eastern parts of the Colony. In our conservatories it is often seen in caricature, drawn up to the height of ten or twelve feet, with long and lank ill clothed branches bearing small bunches of flowers. This is very unlike the native grown bush, which is short, well clothed with leaves, and richly adorned with blossoms.

A.E.R. DEL.t

Liparia sphærica.

PLATE V.

BRUNSVIGIA MULTIFLORA.

The lilies of the genus Brunsvigia are called by the Cape Colonists "*Candelabra flowers*," because their columnar stem, crowned with numerous stalked flowers, all curved upwards and presenting their cups to the sky, has much resemblance to a branched candlestick. Several different kinds, having all a similar habit, but differing in size and in the colour and shape of the flowers, are known to botanists. One of the most beautiful is here figured. The flower stem, which is strongly compressed or flattened, rises from a large, somewhat conical bulb, the lower part of which is sunk in the ground, and the upper, prolonged into a sort of neck, remains above the surface. The leaves and flowers appear at different seasons, one being in perfection in the rainy, the other in the dry months. The flower stem bears at its summit a pair of crimson bracts, which protect the young flowers till they are ready to expand. The inflorescence, though corymbose in appearance, is a true umbel. The outer rays, whose flowers are the first to open, are longest in our plate, but the footstalks of the inner circles lengthen as their flowers enlarge, and eventually all the stalks are nearly of equal length; but, before this takes place, the outer flowers will have withered.

These noble bulbous plants belong to the order *Amaryllideæ*, a family known from the true lilies by having what is called an *inferior* ovary; that is, having their seed vessel, as it were, outside and below the flower, instead of within the circle of the floral leaves. This obvious character marks the distinction between two large and very beautiful families of plants, the favourites of mankind from time immemorial. Comparatively few Amaryllideæ are natives of Europe, but these few rank among the choicest treasures of our Spring, the Snowdrop, the Narcissus and the Daffodils of the poets,

"That come before the swallow dares, and take
The winds of March with beauty."

In South Africa about one hundred species of Amaryllideæ have been discovered, belonging to several genera peculiar to that part of the world. Some of them are minute plants smaller than our Snowdrops rearing their delicate bells or stars on slender, wiry stems. Others are of the grand character of the subject of our plate. The genera Belladonna, Nerine, Vallota, Cyrtanthus, Clivia and Hæmanthus, are, besides Brunsvigia, the most remarkable. And it is not a little curious that while some of them, as Belladonna, may be cultivated in this country with ease, as border flowers, most of the others, though natives of the same country, require the temperature of the stove. The reason perhaps is that the Belladonna in its native country blossoms early, before the intensity of Summer commences, while almost all the others are in flower in the hottest and driest season, when other bulbous plants are taking their annual rest. When the troops of Irideæ, which usher in the Spring, are withered away the Amaryllideæ come forth, lifting their leafless stalks from the burnt-up ground, often the only vestige of life that the spot affords. Their power of enduring heat is very great, for they will flourish in soil

heated to 150°, under a cloudless sky; and so tenacious of life are they that the plucked flower stalks, placed between papers under pressure (for the purpose of making specimens for the herbarium) will, not unfrequently, ripen their seeds in the press.

The name BRUNSVIGIA was given to the genus by the celebrated Heister, in commemoration of Charles Duke of Brunswick Lunenburg and (adds the late Sir J. E. Smith in the Supplement to Rees' Cyclopedia under that article) "we hope that all Englishmen will ever have reason to hail the name of Brunswick wherever it appears."

A. F. R. Del.

Brunsvigia multiflora.

PLATE VI.

LEUCOSPERMUM CONOCARPUM, PROTEA SPECIOSA AND PROTEA LEPIDODENDRON.

The flowers of three shrubs of the family *Proteaceæ*, two of them belonging to the genus *Protea*, and one to *Leucospermum*, are here represented.

Leucospermum conocarpum is frequently found in the natural shrubberies at the Cape, where it is often intermingled with the *Protea mellifera* (figured in Plate VII.) whole thickets being made up of these two species alone. The drawing of *P. mellifera*, exhibiting a large flowering branch, affords to the unfamiliar eye a very just conception of the general aspect of that lovely species; and we may regret that its associate, our *Leucospermum*, has not found equal favour in the eyes of the talented and amiable designer of both pictures. For though the ramification and foliage of *L. conocarpum* are less attractive to the eye than those of *P. mellifera*, they are very characteristic of South African vegetation. By the colonists this shrub is called Kreupel-boom or the Cripple-tree, because its stems and branches have a twisted look, reminding the poetically disposed Dutch Boer of distorted and broken limbs. The shrub is about twelve feet high, branching from the base, all its branches curved, and frequently knotted; and the bark is rough and uncouth. The lower half of the branches is bare of leaves, the upper well clothed with them; and most of the younger branches end in a golden cone of honeyed flowers:— so that the unsightly Cripple-tree is not without its day of beauty. There are several other kinds of Leucospermum, all of which have flowers of similar appearance; but there is much dissimilarity among the shrubs themselves. Some are bushy, like our Cripple; others rise with straight and slender, rod-like stems, but slightly branched; and others, again, of humble growth, trail their branches along the ground. The leaves in almost all are hairy, with a few blunt, callous teeth near the tip.

The central flower in our plate is Protea speciosa, and that on the right hand P. Lepidodendron. The first is a spreading, flat-topped shrub with a stout, arborescent stem dividing upwards into a great number of branches; the latter, a more slender and much more erect shrub, with a habit similar to that of *P. mellifera*. Both are common on the hills in the neighbourhood of Capetown, growing among bare rocks, or starting out of the arid soil, but neither form natural shrubberies. In both the inner scales of the involucre are bearded with soft hairs, but this is specially the case with P. Lepidodendron, where the fur is copious and of a rich blackish brown, converting the tip of each scale into a soft brush. Though the colours of the involucres are not so brilliant as in *P. mellifera*, their coat of glossy, silken hair compensates for the want of a gayer clothing; and both these shrubs rank among the nobler forms of the genus Protea.

Most visitors to the Cape, who pay any attention to plants, notice the absence of mosses and lichens on the trunks of the Proteaceæ. It is quite true that the dry climate of S. Africa is eminently unfavourable to the growth of such plants, and they are consequently much less abundant than in our moister climate. But though less abundant, mosses and lichens are not

absent altogether, and may be seen clothing the old stems of various S. African shrubs and trees, but they are very rarely indeed seen on the stems of Proteaceæ. There seems to be something in the bark of these shrubs which is unfavourable to the growth of cryptogamia. It cannot be the *tannin*, which abounds in Protea bark ; because we well know that no tree is such a favourite with the fairy troops of mosses, lichens and fungi as the Oak, whose bark is notoriously rich in tanning properties. The reason has not been given, but the fact is striking enough, that large trunks of *Proteas* and *Leucodendrons* decay and fall to powder without giving nourishment to a single moss or lichen ; and even the fungi, those omnivorous vegetables, nearly desert the wasting trunks of Proteæ. One or two kinds of fungi may occasionally be seen on rotting stumps, but even these are rare.

DELT

Leucospermum conocarpum.

Protea speciosa.

Protea Lepidocarpon.

PLATE VII.

PROTEA MELLIFERA.

First impressions are ever the most enduring. And whoever has visited South Africa, and paid any attention to its vegetation probably includes the beautiful shrub, which is here faithfully pourtrayed, among the most vivid of his recollections of the Cape flora, for this is one of the first of the native shrubs that catches his eye on landing; and wherever afterwards he may wander through the Colony, it accompanies his steps. Rarely, too, does it present any other than a refreshing sight, for it continues in blossom for eight or nine months in the year;—and in the hottest season, when every herb is burnt up and most of the shrubby plants are drooping, the ever cheerful *Sugar-bosch* (as the Colonists call it) pushes out its young branches, clothed with pale green and soft leaves. The branch in our plate shows two generations of flowers and the commencement of a third. At the bottom of the nest of branchlets is the head of flowers of the last season, containing, in a safe case composed of the closed involucre, the ripened seeds, which lie there awaiting the return of spring, to be scattered on the moistened ground. Beneath the old flower-head there sprang, in the early part of the present season, a circle of four branchlets, and each of these formed at its top a head of flowers, which is here represented in its most perfect state. The crimson and white cups are not calyces, but involucres, containing a great many tubular flowers, densely packed together. These younger inflorescences are surrounded by still younger branchlets, which will, in their turn, form new flowers at their tips;—and thus the bush will continue to enlarge by successive forkings, and at almost every fork a head of flowers will be borne. The beauty, therefore, of a well furnished bush, eight or ten feet in height, may easily be conceived. And the beauty is much enhanced by the order of succession of the flowers, which are to be found of all ages from the newly formed bud to the fully opened cup, and the closed brown cones of the former year.

As the name Sugar-bush would lead us to suppose, the flowers are well stored with honey and are the favourite resort of the bee and the Sugar-bird, a small species of *Certhia* or Creeper which represents the Humming-bird in South Africa. These active little creatures may be seen flitting about the Sugar-bush—rifling its sweets with their long bills, and then hasting away to another bush. But the Colonists do not leave all the honey to the sugar-birds and the bees. Large quantities are collected by the farmers wives and converted into a rustic conserve, which is very palatable; and is regarded, in the simple pharmacy of the country districts, as being endowed with many sanatory virtues. The larger portion of this conserve is kept for home use, but some finds its way to the Capetown market, and is even imported into Europe.

The *Protea mellifera* forms a bush, from six to ten feet in height, in shape not unlike a young *Arbutus*. Its leaves are smooth and glossy; those that are full grown, of a rich dark green. It is one of the few Proteaceæ, which grow in society, and it often forms shrubberies of some extent. But very frequently the *Leucospermum conocarpum* (figured in our last plate) grows, as already mentioned, intermixed with it in the same thicket. These two shrubs are among the

commonest in the neighbourhood of Capetown, growing on the hills round the town, and they are met with in most parts of the Colony. This is by no means the case with most others of this Order, many of which are extremely local. And one of the most striking features that a botanist notices in travelling in South Africa is the constant change of species at short distances. He frequently passes, in the course of a day's ride into a vegetation almost totally distinct. I speak now, more especially, in reference to the species of *Proteas,* but the observation applies with equal force to many other families of plants. The Heaths—the Geraniums—the Mesembryanthema, &c., change in species as we pass from one mountain-chain to another. And yet, while the great majority are local, met with but once, never to be encountered in another locality, some, like our *Protea mellifera,* are common throughout the Colony from Capetown to Port Natal.

Protea mellifera.

PLATE VIII.

PROTEA CYNAROIDES.

The Proteaceæ have their name from Proteus, because, like that ancient sea-god, the plants of this family put on an extraordinary variety of shapes, and yet preserve great uniformity in all essential characters. Thus, while the foliage, ramification, and inflorescence are multiform in the different genera and species, the characters of the flower and fruit are so constantly the same that the order may be defined in fewer words than any other family of equal extent. All of this group have a four-cleft flower, with four stamens, one placed opposite to each of the segments; and all have a solitary carpel, tipped with a filiform style. But when we pass from these essential characters and attempt to describe the *aspect* of the plants of this family, we encounter that extraordinary sportiveness of form which has earned for them the name of the *Protei* of the vegetable kingdom.

Almost all the Proteaceæ are natives of the Southern Hemisphere, and chiefly of Australia and South Africa. A few species are scattered through the cooler and more mountainous regions of South America; and a still smaller number are found in the North of Africa and Southern parts of Asia. Of the seven hundred species known to Botanists scarcely a dozen belong to the northern hemisphere. The Australian species are greatly more numerous than those of any other country, and, as might be anticipated, the genera of that country are more diversified and the species assume a greater variety of singular forms. With the fernlike leaves and golden cones and balls of the *Banksias* and *Dryandras;* the finely divided foliage and slender flowers of the *Grevilleas* and *Petrophilas;* and the holly-leaved, thick fruited *Hakeas,* the contents of our conservatories render us familiar. These are all of Australian origin, but they afford but an imperfect notion of the character of the Australian section of the order. The kinds commonly seen in cultivation are shrubby or arborescent, but there are numbers that trail along the ground, and some (as the *Conospermums*) that are almost herbaceous. The leaves are of every conceivable form that a simple leaf can put on;—the inflorescence is equally varied;—and so is the external aspect of the fruit. Among the remarkable fruits of the Australian Proteaceæ is the famous "*wooden pear, with the stalk at the thicker end.*"

The South African genera and species are much less numerous, but scarcely less diversified in proportion to their numbers. Among them we may notice *Leucadendron, Serruria* and *Protea.* Leucadendron is known from all the others by having diæcious flowers, and seeds lodged in hard cones. There are several different sorts, the largest of which is the "Silver-tree" (*L. argenteum*);—a tree 30 or 40 feet in height, of conical shape, with whorled branches and leaves of silvery whiteness. This beautiful tree grows wild on the Table Mountain, and is largely planted by the colonists, for the sake of its wood. In plantations it is commonly seen side by side with the Stone-pine, with whose dark foliage it contrasts strongly. Both trees have the same formal mode of growth, but are as different in colour as night and day. The *Serrurias* are small bushes with finely-cut leaves and heads of pink flowers often clothed with

silvery hairs. They abound in sandy places, and frequently cover the plains in widely spreading patches. But the grandest of the African Proteaceæ are the species of the genus *Protea*, the type of the order; and the *P. cynaroides* of our plate is remarkable for the great size of its flowers in proportion to the height of the stems. Its stems are indeed stout and woody, but they are so short and simple, often not rising six inches above the soil, that we can scarcely term the plant a shrub. Yet the flowers are larger than those of much taller species. By contrasting this plate with the figures of *P. mellifera*, an idea may be formed of the difference in aspect between plants of the same genus, in this sportive family. In both, the heads of flowers have a coloured involucre; but one is a tall branching shrub, blossoming at every fork; the other bears a single artichoke-like head of flowers on a short and simple stem.

This Plate ends our short series of the Plants of South Africa, but we cannot conclude these brief notices of South African Vegetation without directing attention to the ornamented title, in which some Cape flowers have been very happily grouped together into a wreath. Here we perceive the same fidelity of pencilling and brilliancy of colour which characterise the other pictorial embellishments of this volume. The number of flowers composing this wreath precludes our entering at large into a description of each; but all are painted with so much truth to nature that no person who has resided at the Cape can mistake any of them. In the front of the wreath is seen a bold cluster of the flowers of the Belladonna Lily. At the right hand corner is a knot formed by two blossoms of *Sparaxis*, the yellow flowers of an *Oxalis*, the deep purple, ocellated flowers of *Babiana rubro-cyanea*, the pale blue of *Plumbago capensis*, and a single blossom of the red variety of *Disperis capensis*. The remainder of this side is occupied by a raceme of *Gladiolus blandus*. On the left hand we observe two crimson species of *Oxalis* and a dark purple variety of *Gladiolus viperatus*. The latter flower lies partially across the petals of Disa grandiflora, one of the noblest of terrestrial Orchideæ. Above this is the six-rayed star of *Hypoxis stellata*, beside which is the three-petalled *Vieusseuxia Pavonia*. The remainder of the side is composed of the crimson *Gladiolus Watsonius*, through which *Plumbago* is wreathed; while a single blossom of the yellow variety of *Disperis capensis*, the "bonnet flower" of the Colonists, exhibits its hooded petals and acuminated sepals among the graceful flowers of the Plumbago. Several of these plants have already been noticed; the others, belonging to tribes untouched elsewhere in this volume, afford us just such further glimpses of the Cape flora, as make us regret that our talented Authoress has closed her labours so soon, and left so many striking forms unfigured.

The Plant represented in the next page, though not strictly belonging to this work, being a native, not of South Africa, but of Sierra Leone on its Western Coast, possesses particular claims for introduction here. The first notice of it, is contained in the Appendix to the Report of the Court of Directors of the Sierra Leone Company of 1794, page 173, by Professor Adam Afzelius who, under the head of the "CREAM FRUIT" observes, that it is larger than the Bread Fruit, quite round, and yields when wounded a quantity of fine white juice resembling sugar or the best milk, of which the natives are very fond, using it to quench their thirst.

Mr. Brown quotes the abovementioned work in his Appendix to Tuckey's Narrative of the Expedition to the river Congo, p. 449, and remarks that the Cream Fruit of Sierra Leone probably belongs to an unpublished Genus of the natural order Apocineæ. His

A.E.R. Del.t

Protea cynaroides

genus Carpodinus, described in Mr. George Don's account of the Edible Fruits of Sierra Leone, in the Horticultural Society's Transactions, Vol. V. p. 455, and generically described in the Gardener's Dictionary of the same author, is widely different in the structure of the flower from the cream fruit, of which there exist two authentic specimens in the Banksian Herbarium, one collected in Sierra Leone, by Professor Afzelius himself, the other by Mr. Whitfield.

This remarkable Shrub has lately blossomed for the first time in England, and a full account of it is contained in the Botanical Magazine for September 1849, tab. 4466, as well as in Mr. Bentham's description of the Plants of the Niger Expedition, now in the press. Sir William Hooker having liberally placed at our disposal the original drawing prepared for the Magazine, together with a fresh branch, with leaves, from Her Majesty's garden at Kew where it thrives luxuriantly, a representation of the plant has been made which forms an appropriate conclusion to this work from its beauty and fragrance, its use and the generic name it bears.

Roupellia grata.

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